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09/740,584	12/18/2000	Jeffrey Morgan Alden	GP-301022	6367
7590 General Motors Corporation Legal Staff Mail Code 482-C23-B21 P.O. Box 300 Detroit, MI 48265-3000			EXAMINER LEE, EUGENE	
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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 09/740,584
Filing Date: December 18, 2000
Appellant(s): ALDEN ET AL.

John A. Miller
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 7/8/08 appealing from the Office action mailed 12/31/07.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is substantially correct. However, the prior art rejection and the 101 rejection regarding claims 13-19 have been withdrawn.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

No evidence is relied upon by the examiner in the rejection of the claims under appeal.

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

2. Claims 1 thru 19 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

In lines 7, and 8, claim 1 recites the limitation "entities in the full model" in line 2. There is insufficient antecedent basis for this limitation in the claim.

In lines 7, and 8 of claim 1, it is unclear what "converting" actually occurs in the limitation "converting the calculation entities ... into temporary data entities" since calculation entities and data entities are both values. Appropriate clarification and/or correction are required.

Claim 1 recites the limitation "the calculations" in line 12. There is insufficient antecedent basis for this limitation in the claim.

Claim 1 recites the limitation "the size" in line 13. There is insufficient antecedent basis for this limitation in the claim.

Claim 2 recites the limitation "connecting arcs" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 3 recites the limitation "isolated cycles" in line 2. There is insufficient antecedent basis for this limitation in the claim.

Claim 7 recites the limitation "all global variables" in line 2. There is insufficient antecedent basis for this limitation in the claim.

These rejections are also reiterated for the other two sets of claims (i.e. claims 8-12, and 13-19) that also contain the same limitations, and therefore, subject to the same rejections above (i.e. connecting arcs in line 9 of claim 8, and etc.).

Claim Rejections - 35 USC § 101

3. 35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

4. Claims 1 thru 12 are rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

The first step in determining whether a claim recites patent eligible subject matter is to determine whether the claims falls within one of the four statutory categories of invention recited in 35 USC 101: process, machine, manufacture, and composition of matter. The latter three categories define “things” or “products,” while a “process” consists of a series of steps or acts to be performed. For purposes of 101, a “process” has been given a specialized, limited meaning by the courts, and the method claims must meet this specialized, limited meaning to qualify as a patent-eligible process claims. As clarified in *re Bilski*, 545 F.3d 943, 88 USPQ 2d 1385 (Fed. Cir. 2008), the test for a method claim is whether the claimed method is (1) tied to a particular machine or apparatus, or (2) transforms a particular article to a different state or thing. This is called the “machine-or-transformation test”.

First, claims 1-12 are process claims. However, claims 1-12 do not pass either instance of the two tests stated in *Bilski*.

Regarding test (1) wherein the claimed method is tied to a particular machine or apparatus, claims 1-12 are not tied to a particular machine or apparatus. The limitations stated in claims 1-12 are a series of mental steps that can be done WITHOUT a machine or apparatus. The claims 1-12 do not state any limitations in regards to a particular machine or apparatus, therefore, claims 1-12 fail this test.

Regarding test (2) wherein the claimed method transforms a particular article to a different state or thing, claims 1-12 do not pass this test because claims 1-12 are not a state or a thing or has physical being, and therefore can not be transformed to a different state or thing. Rather they are a series of mental steps, and therefore can not be realized as states or things.

In summary, the claimed process wherein all of the process steps may be performed entirely in the human mind is obviously not tied to any machine and does not transform any article into a different state or thing. As a result, it would not be patent-eligible under 101.

Further, claims to processes that do nothing more than solve mathematical problems or manipulate abstract ideas or concepts are complex to analyze and are addressed herein. If the “acts” of a claimed process manipulate only numbers, abstract concepts or ideas, or signals representing any of the foregoing, the acts are not being applied to appropriate subject matter. *Gottschalk v. Benson*, 409 U.S. 63, 71 - 72, 175 USPQ 673, 676 (1972). Thus, a process consisting solely of mathematical operations, i.e., converting one set of numbers into another set of numbers, does not manipulate appropriate subject matter and thus cannot constitute a statutory process. See MPEP 2106.02. In this case, the claims are process steps of dealing with entities and converting those entities into different sets of entities (i.e. calculation entities into temporary data entities) which is representative of manipulating only numbers, abstract concepts or ideas and therefore does not constitute a statutory process.

(10) Response to Argument

Regarding the appellant’s arguments on page 4, second paragraph of the appeal brief filed 7/8/08 that the 112 rejections are improper for the language “entities in the full model”,

"connecting arcs", "isolated cycles" and "all global variables", this argument is not persuasive. In lines 7, 8 of claim 1, the term "entities in the full model" lacks antecedent basis because it is unclear whether the "entities" in the limitation "entities in the full model" is referring to the "calculation entities" in line 5, or the "data entities" in line 6 in the same claim. Regarding the "connecting arcs", isolated cycles", "all global variables", it is unclear how the connecting arcs, isolated cycles, and all global variables are associated to the previously stated limitations in claim 1. Regarding the limitation "converting the calculation entities ... into temporary data entities", there is insufficient antecedent basis because there is actually no converting being done but only one set of entities being "renamed" or "relabelled" without any "converting".

Regarding the appellant's argument on page 5 of appeal brief filed 7/8/08 that the Examiner has not met this burden because he has not specifically stated how all of the claims are devoid of any limitation to a practical application, this argument is not persuasive because appellant's claims 1-12 still do not pass the "machine-or-transformation test" as required by 35 USC 101 to be called patentable subject matter.

The first step in determining whether a claim recites patent eligible subject matter is to determine whether the claims falls within one of the four statutory categories of invention recited in 35 USC 101: process, machine, manufacture, and composition of matter. The latter three categories define "things" or "products," while a "process" consists of a series of steps or acts to be performed. For purposes of 101, a "process" has been given a specialized, limited meaning by the courts, and the method claims must meet this specialized, limited meaning to qualify as a patent-eligible process claims. As clarified in *re Bilski*, 545 F.3d 943, 88 USPQ 2d 1385 (Fed. Cir. 2008), the test for a method claim is whether the claimed method is (1) tied to a particular

machine or apparatus, or (2) transforms a particular article to a different state or thing. This is called the "machine-or-transformation test".

First, claims 1-12 are process claims. However, claims 1-12 do not pass the machine or transformation test as stated in *Bilski*.

Regarding test (1) wherein the claimed method is tied to a particular machine or apparatus, claims 1-12 are not tied to a particular machine or apparatus. The limitations stated in claims 1-12 are a series of mental steps that can be done WITHOUT a machine or apparatus. The claims 1-12 do not state any limitations in regards to a particular machine or apparatus, and therefore, claims 1-12 fail this test.

Regarding test (2) wherein the claimed method transforms a particular article to a different state or thing, claims 1-12 do not pass this test because claims 1-12 are not a state or a thing or has physical being, and therefore can not be transformed to a different state or thing. Rather they are a series of mental steps, and therefore can not be realized as states or things.

Regarding the appellant's argument on page 6 that the claimed invention does produce a useful, concrete and tangible result because it allows a person to visually analyze the operation of a system that the system model represents by observing changes in the model as data is manipulated, this argument is not persuasive because it still does not pass the machine-or-transformation test and further, for the sake of *arguendo*, such a recitation does not contain a concrete and tangible result that is physical. Entities are not tangible results but only mental thoughts that can be conjectured without the use of any machine. No real world, physical result is produced. In any case, whether a concrete, useful, tangible result test is produced, the test is no longer valid as in *re Bilski* superseded the previous tangible results test and *Bilski* only

requires a machine-or-transformation test which, as addressed previously, the appellant's claims 1-12 do not pass.

Regarding the applicant's argument on page 7 that the claims falls under patentable subject matter under Ex-Parte Lundgren, this argument is not persuasive since in re Bilski (machine-or-transformation test) now supersedes Ex-Parte Lundgren, and Bilski does not require the concrete, useful, tangible result test.

(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

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/Eugene Lee/

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